

What is claimed is:

1. A coryneform bacterium having L-glutamic acid producing ability, wherein trehalose synthesis ability is decreased or deleted in the bacterium.
- 5 2. The coryneform bacteria according to claim 1, wherein the trehalose synthesis ability is decreased or deleted by introducing a mutation into a chromosomal gene coding for an enzyme in trehalose synthesis pathway or disrupting the gene.
- 10 3. The coryneform bacteria according to claim 2, wherein the gene coding for the enzyme in trehalose synthesis pathway consists of a gene coding for trehalose-6-phosphate synthase, a gene coding for maltooligosyltrehalose synthase, or both of these genes.
- 15 4. The coryneform bacteria according to claim 3, wherein the gene coding for trehalose-6-phosphate synthase codes for the amino acid sequence of SEQ ID NO: 30, and the gene coding for maltooligosyltrehalose synthase codes for the amino acid sequence of SEQ ID NO: 32.
- 20 5. A method for producing L-glutamic acid comprising the steps of culturing a coryneform bacterium according to any one of claims 1-4 in a medium to produce and accumulate L-glutamic acid in the medium, and collecting the L-glutamic acid from the medium.
- 25 6. A DNA coding for a protein defined in the following (A) or (B):

(A) a protein having the amino acid sequence of
SEQ ID NO: 30,

(B) a protein having the amino acid sequence of
SEQ ID NO: 30 including substitution, deletion,
5 insertion or addition of one or several amino acid
residues and having trehalose-6-phosphate synthase
activity.

7. A DNA according to claim 6, which is a DNA defined in the following (a) or (b):

10 (a) a DNA containing a nucleotide sequence comprising at least the residues of nucleotide numbers 484-1938 in the nucleotide sequence of SEQ ID NO: 29,

(b) a DNA hybridizable with a nucleotide sequence comprising at least the residues of nucleotide numbers 484-1938 in the nucleotide sequence of SEQ ID NO: 29 under a stringent condition, showing homology of 55% or more to the foregoing nucleotide sequence, and coding for a protein having trehalose-6-phosphate synthase activity.

20 8. A DNA coding for a protein defined in the
following (A) or (B):

(A) a protein having the amino acid sequence of
SEQ ID NO: 32,

(B) a protein having the amino acid sequence of
25 SEQ ID NO: 32 including substitution, deletion,
insertion or addition of one or several amino acid
residues and having maltooligosyltrehalose synthase

activity.

9. A DNA according to claim 8, which is a DNA defined in the following (a) or (b):

(a) a DNA containing a nucleotide sequence comprising at least the residues of nucleotide numbers 82-2514 in the nucleotide sequence of SEQ ID NO: 31,

(b) a DNA hybridizable with a nucleotide sequence comprising at least the residues of nucleotide numbers 82-2514 in the nucleotide sequence of SEQ ID NO: 31

10 under a stringent condition, showing homology of 60% or more to the foregoing nucleotide sequence, and coding for a protein having maltooligosyltrehalose synthase activity.

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